

## Scanning Best Practices



Car   
diagnostic

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## President's Message

### Bob Amendola

## High Tech = Demand Respect



As we move forward in our industry, the definitive need for OEM repair procedures is more important than ever before.

Because of this, we continue to look to manufacturers for such. However, accessing this information is merely the tip of the iceberg. Proper research, documentation and proof of accordance is paramount.

At our most recent membership meeting, Mike Anderson's "Scanning Best Practices" presentation was a great

learning opportunity and eye opening reminder of how critical it is to properly follow and document both scanning and OEM repair procedures during a repair.

I strongly urge each and every one of our members to get on board. On every repair, no matter the size, we need to be in the habit of obtaining the OEM repair procedures and documenting how each component was properly followed. Even if you aren't in the financial position to invest in scanning equipment just yet, you can utilize a 3rd party vendor to provide that service for you.

Make sure that you obtain documentation and confirmation to ensure that it was done properly though.

To serve as an example of how we have implemented strategies to properly research, follow and document OEM repair procedures, we have found the use of file folders that have prong fasteners on either side to be very useful in keeping everything organized and accessible.

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To the left half of the folder, we have a communication log that lists every correspondence between customers, insurance representatives and parts departments. Under the communication log is where we store all of our documents for repair procedures, scans etc. The first thing our technicians do when beginning a new job is to scan the vehicle.

After completing the pre-scan, they give us a copy to store in the file and place the other copy on the dashboard of the vehicle for reference during the repair. Second, we research the appropriate repair procedures and follow the same organization process. We consider this to be part of our standard operating procedure and do so with every single job regardless of size.

I understand that everyone is different and has their own ways of operating their business. I mention our process only to serve as an example of how we make it work.

As the licensed repair professionals, WE are saddled with the responsibility to safely repair each vehicle that passes through our shops. WE are the ones liable for the quality and integrity of the repairs we provide. Because of this, WE must protect ourselves and our exposure.

The most concrete way to do so is to follow OEM repair procedures vehemently and detailed documentation. Until we stop listening to 3rd party influences, we will never move forward. The time is now to utilize technology and repair procedure to repair vehicles properly and demand the proper respect and compensation!

I wish you all a healthy, happy and successful New Year and I am eager to continue working hard to improve the future of our industry for us all in 2020.

*Bob*

***Bob Amendola***

***Autoworks of Westville - New Haven***

***President - Auto Body Association of Connecticut***



**AUTO BODY  
ASSOCIATION  
OF CONNECTICUT**



## Mike Anderson of CollisionAdvice Presents Scanning Best Practices



The Auto Body Association of Connecticut (ABAC) keeps the fire going with their most recent membership meeting at the Seasons Venue in East Haven, CT. Over 120 members and guests attended this event to see featured guest speaker Mike Anderson of CollisionAdvice.

ABAC President Bob Amendola began the meeting welcoming all, once again, for taking time from their businesses and families to support their association.

Amendola then thanked all the meeting sponsors as well as ABAC Corporate Sponsors and ABAC News Advertisers.

The major sponsors for this meeting were:



Represented by Rich Perry - Director of Sales for New England

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Our Co-Sponsors:



#### TechZone – Mobile Diagnostics - Represented by Bill Murphy

Stepping back to the podium, Amendola said, ***“The National focus is on Safe Repairs. It’s up to us to move forward to make this happen while getting what we deserve! As the year comes to an end, your ABAC Board of Directors, would like to ask our members what they would like us to pursue. We want to hear more from our association members. This is YOUR association, and this is what makes it all possible.”***

***“In conversation with member shops recently, one of their concerns were, ‘Well, the insurance company is not going to send out an appraiser’. Just to be clear, if your customer, whether they’re insured or claimant, wants to have a physical damage appraiser come to your shop, the insurance company MUST do it,”*** said Amendola. ***“Another concern I was approached with is that shops have said the new thing that’s going on is that insurance companies don’t want to pay for the Federal Emissions sticker that’s on the cars. It is a FEDERAL law so educate your appraiser.”***



Bob then welcomed Bill Murphy, President, of TechZone – Mobile Diagnostics Experts.

Said Murphy, ***“Techzone is a fully licensed and insured family owned and operated business. We have been working with Connecticut body shops since 2003. We take pride in providing our customers with a personal hands-on service. Our certified technicians use OEM factory scan tools to insure you receive the most accurate diagnostic information. Our certified technicians use advanced tools to provide accurate diagnostics for your vehicles. Our technicians also come to you! Simply call to set up an appointment and we can service you at your location”.***

TechZone offers complete mobile diagnostics such as:

- Prepare vehicle for scan process
- Perform full scan of all modules installed in vehicle
- Clear and reset history fault codes where applicable

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- Investigate any current faults or issues
- Consult customer if any additional testing, programming, or calibration is required.

Using OE Scan to log onto OE Server, download most current programming data, program or code module complete set up of control module. Some modules require immobilizer programming as part of programming procedure.

After dinner we welcomed our featured guest speaker, Mike Anderson from CollisionAdvice. By now, just about everyone in the Automotive Industry knows Mike Anderson. His presentations are thorough, factual and documented. He gives everyone all the tools necessary to make sure you know where to get information and how to properly use that information to perform proper and safe repairs to vehicles. Mr. Anderson is one of the best at what he does. He informs, he teaches, he trains and all in a very comfortable, environment so that you can absorb what he has to say. Oh, and did we mention that Mike is very entertaining?

Here is some of the subject matter that Mike presented:

#### **How to negotiate for Pre-and Post-repair scanning**

- How to overcome common objections
- Resources to Prove it is "REQUIRED"
- Understanding what key words may be used during OEM Research
- OEM vs. Aftermarket Scan Tools
- Telematics and Scanning
- And much more

#### **Our objective is to give you clarity on:**

- How to overcome common objections from third-party payers
- How to justify resources to prove it is "required"
- What should be included and/or not-included
- How to determine what is fair and reasonable for reimbursement

#### **Types of Operations Requiring a Scan Tool**

Need to understand there are multiple operations that require the use of a scan or diagnostic tool

These would include, but are not limited to:



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- Pre-repair scan
- Post-repair scan
- Initializations
- Calibrations
- Relearns
- Resynchronizations
- And much more

As you can see, events such as this are a critical reason to become a member of one of the strongest associations in the country. Your ABAC will continue to bring in professionals to help educate and train you to become more profitable but most importantly, to help produce safe repairs.

“Thank you to Mike Anderson for presenting to us and giving us so much important information that we can all bring back to our businesses,” Amendola stated. *The ABAC would also like to recognize Rich Perry from Albert Kemperle who was instrumental working with Kemperle and Axalta to sponsor Mike Anderson for this event.*

Amendola once again thanked event sponsors, ABAC Corporate Sponsors, and ABAC News Supporting Advertisers. *“Please consider them when making your decisions to purchase anything that they offer. Remember to support those who support you,”* he said.

For more information about ABAC and its future events, visit [abaconn.com](http://abaconn.com)



## From the Desk of Mike Anderson: Skate to Where the “Puck” Is Going, Not Where It Has Been

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Written by [Mike Anderson](#)

Each year, I apply various presentation themes, and this year, I based my theme on something Wayne Gretzky, the legendary hockey player, once said.

He was asked what he learned that made him such a great player, and he said, “Skate to where the puck is going, not where it has been.”

In other words, he looked ahead, anticipating where the puck would be. As this year begins to wind down, we all need to think about not where the “puck” is in our industry right now, but where it is going to be—where you’ll want to be and how you’ll get there.

Here are four examples of how, like Gretzky on the ice rink, you may want to be looking ahead rather than looking at things as they are now.

1. Scanning has become the norm in the industry, which is good, but where the “puck” is going is a related process—calibrations. Shops need to be investigating the time, money and, most importantly, investing in shop space to be able to perform more ADAS calibrations in-house. Understand what types of vehicles you most commonly work on that require calibrations. Research those procedures, understand what targets or tools are needed, and look for the potential space to do them. The space can be a hurdle; the average body repair stall is 300 to 400 square feet, but some of these calibrations can require 1,200 to 1,800 square feet. This is where the “puck” is going, and starting to head there now will help you succeed.

2. We need to start thinking about artificial intelligence (AI). While it remains to be seen whether AI can be used to write estimates, I believe it is or soon will be used to identify total losses. What does that mean for shops working to anticipate where the “puck” will be? Think about the non-DRP work you do, and how much total losses contribute to your revenue in terms of tear-down costs, storage fees or administrative fees. Storage is generally 100% gross profit, right?

All that shop revenue may start to decline as AI is introduced. The consumer will send in some photos, and if the AI system identifies their vehicle as a total loss, that vehicle is going straight to the auction yard, not a shop. That’s something you need to start preparing for in terms of “skating to where the puck is going.”

3. The estimating system providers say claim counts have declined somewhat, albeit not a lot. That slow decline seems likely to continue, if not accelerate, as more vehicles on the road have ADAS features. It’s not likely to be a dramatic shift, but even a 5% or 10% decline will have an impact on your business. In this case, skating to where the puck will be means working on your capture rate.

For those on DRP programs, for example, you need best practices in place to ensure you follow-up on any assignments in a timelier manner. It’s easy when we get busy to not be as quick to jump on those; however, as claim counts decline, you need a designated person or a well-defined process to follow-up on those assignments quickly.

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For work outside of DRP programs, shops should prioritize responding to potential customers seeking estimates or appointments, to capture that work rather than lose it to competitors.

4. A fourth way you can “skate to where the puck is going” is by reviewing your staffing. Do you have technicians, estimators or managers who are likely to retire in the next three-five years? Have you thought about what you are going to do to replace them? Start working on that strategy now rather than later. Get a game plan in place. Start building your “bench” or “farm team” of talent, so that when those people retire, you are prepared with someone who you can move into those positions.

It’s not always easy to know exactly where the “puck” is going. Being able to do that is part of what set Gretsky apart from so many other hockey players. I believe the same will be true for the shops that keep looking for where the industry is headed and taking steps to be there.

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## Santa Claus heads to Small Claims Court this year to bring some holiday cheer to a few ambitious repair shops.

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**ABAC Legal Counsel  
John M. Parese  
Law Offices of Buckley, Wynne & Parese**

Below are four recent Small Claims decisions you may want to consider when evaluating your New Year’s resolutions for 2020. In each case, the shop won the full amount claimed. These cases do not create precedent (i.e. rulings future small claims courts need to follow), but they are nonetheless helpful in your consideration of how some courts have been looking at certain issues affecting the industry.

### ***Eddie’s Auto Body Specialists (East Haddam) v. Progressive Direct Insurance Company***

Eddie’s filed a lawsuit against Progressive for the \$2,430.89 due on a \$12,351.82 repair of a Mustang. The matter was tried on September 25, 2019. Eddie’s argued that the repair was reasonable, safe and necessary for complete and proper repair. Eddie Lupinek testified that his labor rates (\$78.00/hour) were prevailing and that the parts used were needed to restore the vehicle to its pre-loss condition. The Court found that Eddie’s proved his case and Progressive was required to pay \$2,530.14. (Full Claim Paid)

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***Santostefano Auto Body Collision and Repair Specialists (Middletown) v. Allstate Insurance Company***

Santostefano's repaired and stored a vehicle insured by Allstate. There was \$7,212.71 in repairs and \$744.45 in storage for a total bill of \$7,957.16. Santostefano's labor rate was \$70/hour and its storage rates were \$100/outside per day and \$175/inside per day. Allstate would not authorize repairs and delayed sending out an appraiser. Allstate also wanted to pay a nonconsensual rate for storage. On September 30, 2019, the Court ruled in favor of Santostefano's and Allstate was required to pay \$3,769.07 in damages. (Full Claim Paid)

***Hamden Auto Body v. State Automobile Mutual Insurance Company***

Hamden Auto had a total bill of \$5,899.83 for repairs made on a Hyundai vehicle insured by State Auto. State Auto paid \$4,873.51. Hamden Auto Body filed a lawsuit for the remaining \$1,026.32. Evidence was submitted that Hamden Auto Body's labor rate is \$85/hour. State Auto argued that Hamden Auto Body overcharged and unnecessarily utilized OEM parts in the repair. On October 3, 2019, the Court entered full judgment in favor of Hamden Auto Body and State Auto was required to pay \$1,125.62 to the shop. (Full Claim Paid)

***Town Line Body Shop (Monroe) v. Allstate Insurance Company***

A Town Line customer's vehicle was damaged in a motor vehicle accident in which the at-fault party was insured through Allstate. It took Allstate 15 days to send an appraiser to the shop and Allstate refused to pay the storage charges that accrued during their delay. Town Line charges \$100/outside per day and \$125/inside per day for storage. Allstate testified that the shop could have utilized Allstate's "Virtual Assistant." The shop argued that the "Virtual Assistant" only works if there is an agreement on the repairs. After the trial on October 4, 2019, judgment was issued in favor of Town Line; and Allstate was required to pay the shop the \$1,694.17 owed. (Full Claim Paid)

In each of these cases the court ruled in favor of the shop and ordered the insurer to make full payment. I would never suggest that Small Claims Court can solve all your problems, but it remains a viable option that can be used when confronted by particularly egregious behavior.

I wish you all a wonderful holiday, and a prosperous 2020!

***John M. Parese, Esq. is a Partner with the law firm of Buckley Wynne & Parese and serves as General Counsel to the ABAC. Buckley Wynne & Parese maintains offices in New Haven, Hartford and Stamford, and services clients throughout all of Connecticut. The opinions set forth in Attorney Parese's articles are for education and entertainment purposes only, and should not be construed as legal advice or legally binding. If you have any questions or concerns about the content of this or any of Attorney Parese's articles, you are encouraged to contact Attorney Parese directly.***

## Streamlining the Process for Ultimate Efficiency



### **ABAC Vice-President - Ashley Burzenski**

Working in a fast-paced service-based industry, I am all about efficiency and organization. Over time, I have worked hard to understand the inner workings of our industry and in doing so, I have discovered techniques and simple adjustments that help us to maximize productivity. For example, establishing SOP (standard operating procedure), creating (and following) a company handbook, and having a new-hire guide are some of the key components that help to simplify the day to day operations.

**Establishing standard operating procedure (SOP)** is fundamental. In my opinion, it is the first step to a smooth operation. In writing SOP, you begin with the end in mind, define the scope, identify the audience, review, test, edit and repeat. For example, we have a clearly defined and printed copy of SOP for our team members to reference regarding customer drop-offs and pick-ups. Not only was this helpful in training, but it sets a clear standard of expectations to ensure a seamless experience for our customers. SOP can be used effectively in both the shop and office settings. A good example of SOP with respect to the technical aspect would be the process each technician follows when beginning every new job.

The first thing that is done regardless of type or severity of repair is to scan the vehicle and then research the proper OEM repair procedures. No matter the subject, I'm sure you will find that the final product will help every team member to be efficient and cohesive together.

**Company handbooks** are essential for any business for a host of reasons. They include but are not limited to rules, guidelines, disciplinary actions, expectations and benefits. Without a company handbook, an organization is essentially flying blind with respect to the human resources aspect of the business and can add unnecessary stress and confusion. Although the task of creating a company handbook seems daunting, it is certainly worth it long-term. Many payroll companies offer assistance with this or you can create your own with research and due diligence. Having a company handbook in place removes any confusion and sets the standard.

**New-hire guides** have been a huge help for us over time. While this isn't a new concept, sometimes small businesses overlook some HR components that are commonplace in the corporate world. Since we are already stretched thin with time each day, it was very difficult to provide proper onboarding for new team members. Putting together a new-hire guide to accompany our employee handbook really helped to alleviate some of the growing pains during transitional periods.

Additionally, **carving out some time to organize and set up workspaces** to be organized and easily accessible helps eliminate wasted time spent searching for files, tools etc. Personally, I like to take 5 minutes at the end of each day to re-organize my workspace so I can start fresh each morning.

While these are just a few concepts, I hope they help you to find ways to improve the day-to-day operations within your business!



## How to Get Paid for Body Repair Materials

How do most collision repair facilities calculate body materials on a vehicle, for example, replacing a truck outer bedside panel? *Bonding panel adhesive, drill bits, weld-through primer, seam sealer, self-etching primer, welding supplies, etc. In the past, we have cost itemized to bill the insurance companies. Also, are the insurance companies required by law to reimburse body shops for this additional cost? Some insurers have stated these body materials are included with paint materials.*

Thank you for your questions. Let me address these in the order you asked them.

### How do most collision repair facilities calculate body materials on a vehicle?

The methods collision repairers use to determine their material costs vary. Most repairers simply fail to list or charge for “body materials” and therefore lose their actual cost and fail to earn profits.

Some repairers rely upon:

- The antiquated method of using the fictitious, fabricated and often inaccurate formula of “refinish material rate (in dollars) multiplied by published estimated refinish labor guide times.” This rate is generally determined by insurers prescribing them as “prevailing competitive pricing..” **These values have little accuracy or legitimacy relative to true costs and reasonable profit structures.** As an example, this “rate” is applied to all repairs regardless if the finish is white, silver or red and whether or not the colors can cover (as some may require more applied coats, requiring more mixed materials). Because “refinish materials” pertain to those materials used in refinish prep and application, “body materials” are not taken into consideration, so repairers tend to not list them and provide such materials at no charge.
- Some shops employ paint/jobber weight and measurement systems where the paint and materials usage is calculated at the time of mixing. These programs rarely if ever take into account allied or ancillary products such as razor blades, rags, sandpaper, disposable cups, liners, tack-rags and many other products used in refinish prep and application. These calculators and methods do not address body materials employed as necessary to bring a damaged panel to the condition (“new out of the box”) needed for refinishing.
- Some shops use programs that take into account all material and ancillary products (based on various things such as areas being refinished) that are based on actual costs plus desired mark-up. These systems provide the user with the ability to add body materials in the quantities used and accurate pricing with desired profit margins.

It’s important to understand what the difference is between paint materials (aka refinish materials) and body materials and what they entail. I encourage everyone to read and thoroughly understand the P-pages. As I tell my repairer coaching/consulting clients, **“The ‘P’ in P-Pages stands for profit!”**

Where the P-pages are mute on a point, it’s up to the businessperson to fill the gap and make their assessment based on their professional experience, training and knowledge.

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### **A Thousand Cuts**

The lack of charging properly for body materials can be a huge loss to a repairer over a period of time; it's like "a slow death by a thousand cuts."

To use your example, you have a truck bedside with a 1.0-hour dent. You get paid to repair and refinish it, and the small quantity of body materials needed may include a grinding disc, minor amounts of epoxy/catalyzed primer, body filler, several stages of sandpaper, primer/sealer, guide coat, masking tape, masking paper and car cover, etc., to bring it to the condition where the labor guide's refinish times would then apply. Not a huge deal as you may lose \$50 or so at full "retail" pricing and \$25 in actual costs for unpaid body repair materials. Keep in mind that, at 10% net, \$25 equates to the bottom-line net profit on a \$250 repair.

Now consider replacing the same bedside and the many materials and quantities you would use, from spot-weld drill bits to seam sealers, while receiving the same paint and material allowance as in the 1.0 labor example above.

As to how to establish pricing, this is up to the individual repairer. They may elect to continue to give them away at no charge, employ the manufacturer's suggested retail price (MSRP), use the "cost-plus" method, or establish resale pricing to achieve their desired profit margin. It's not uncommon for service providers in other industries (e.g. plumbing, heating/A/C, lawnmower repair, etc.) to mark up materials 100% or more. Repairers should charge for all incurred costs for body repair-related activities in a manner that allows for a reasonable return on their investment. Not billing for body materials would be no different than only charging for the actual cost of labor without markup.

### **Markup vs. Margin**

"Markup" and one's profit "margin" are calculated differently. The amount you mark up your materials doesn't equal your profit margin percentage. Understand the difference so you can more accurately set your markups to make the profit you're expecting.

Regardless of what method you use, you should make a reasonable return on all investments made. After all, this is why it's considered your business rather than your hobby!

In the past, we have cost-itemized to bill the insurance companies.

I encourage repairers to prepare accurate billing and submit it to their customer. As a courtesy to your customer, you could submit your estimate and billings to the insurer. This brings up your other question.

Are the insurance companies required by law to reimburse body shops for this additional cost?

The only time an insurer would be responsible for a repairer's billing is if, for example, a repair was performed on one of their own fleet vehicles. Otherwise, anything that a repairer does that involves the insurer is done as a courtesy to the repairer's true customer. And the customer, as defined by most states, is the party who signs the repairer's repair authorization/contract.

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*Note: one caveat to this is when a repairer has an agreement/contract with an insurer under a DRP, as there may be certain restrictions and obligations that preclude them from normal and customary business practices.*

*Some insurance companies have stated these body materials are included with paint materials.*

Of course they have! Why wouldn't they? The reason insurers make such assertions is quite simple...they often work!

In my 35-plus years in the collision repair industry as a shop manager, owner and industry consultant interacting with thousands of repairers over the years, I've learned that such assertions by insurers work due to the fragmentation and divisiveness of repairers and their failure to come together to discuss such issues.

Many have learned what they know from the insurance industry. Consider that the educational sessions at large industry gatherings where training is offered are often funded or influenced by insurers.

Because repairers do not interact with other repairers in their market, they often rely on information from claims people who visit their shop for inspections. It often goes something like this:

***"Hey Joe, you get around to all the shops in the area...what are shops charging to set-up and pull nowa-days?" Or, "Hey Joe, what are insurers paying for body materials?"*** And of course, the insurer tells them what the insurer wants them to hear.

**The simple fact is that most body shops are owned and operated by people who are great at fixing cars but not so great at running a business.** So rather than rely on their own education and understanding, they look to others to advise them on how to run their business. As a second-generation body shop owner, I was once one of those people.

Insurers will gladly educate repairers on what they want them to hear and do. Repairers must take control of their own businesses and determine their own pricing as it pertains to their specific business in their specific marketplace and base their pricing structure on sound business practices – pricing that will not merely enable them to survive but thrive.

### **Summary**

Determining one's pricing is a balancing act. It must be competitive based on the level of services offered but provide sufficient profit to remain sustainable. Those who have lower overhead can offer lower pricing to entice a greater volume of work. Or, they may establish a higher pricing structure and do fewer repairs but at significantly higher margins/profit. Those who have high overhead will be compelled to know their true cost of operation and determine the profit margins needed to charge what is needed to cover their costs and earn a reasonable profit.

**Source: Written by Chuck Olsen - Collision diagnostic Services**  
**<http://collisionadvice.com/scan-tool-documents/>**



## Scan Tool Functionality and Application in Today's Collision Repairs

With the increasing amount of technology introduced into vehicles over the past few years and continuing heavily into the future, the need for access to advanced level diagnostics and scan tools has reached a critical point for collision repairs. Progressive shops that plan to handle this proactively and efficiently will need to incorporate additional diagnostic functions for damage assessments and to complete computerized calibrations into their processes.

**Shops do have some options; each option does have unique consequences.**

- Sublet scanning functions and diagnostics to dealers. This is a time consuming process and is usually done after repairs have started and additional problems are present. Usually adds to towing and rental expense. It is not feasible for a pre-repair or estimate process during blueprinting stage of repair estimate.
- Sublet scanning functions and diagnostic to a mobile service. This can be more effective than towing to a dealer being as towing costs can be reduced or eliminated but can still be time consuming due to scheduling for mobile service visit. This can be applied to blue printing process but forces the shop to wait for mobile tech visit.
- Remote diagnostics with remote scan tool connectivity. At CDS we are currently applying this functionality which was previously just a conceptual idea. Our communication Interface, currently known as "Astech" is not a scan tool at all by itself, but a means for our diagnostic experts to connect scan tools remotely to vehicles over long distances using an internet connection in your shop to perform functions needed to assess, diagnose, and complete procedures that are only possible using the highest levels of OEM specific scan tools and some aftermarket scan tools. See patent # US8688313 for more information on process and visit [www.collisiondiagnosticservices.com](http://www.collisiondiagnosticservices.com) for more detailed information on services available.
- Perform scanning functions and diagnostics themselves. This would probably be the most effective for a timing and operational standpoint. However this process does require the shop to obtain and maintain their own equipment and personnel to perform the diagnostic functions with the scan tool and interpret the results. Scan tools can very expensive depending on the level of coverage and functionality needed. See descriptions of available scan tool options below.

Keep in mind what a scan tool does and doesn't do; levels of functionality are further detailed below. Scan tools do not technically fix anything or directly diagnose anything. However without these functions being available from a high level scan tool, diagnostics, calibrations, and re-learn function are mostly impossible. Scan tools provide vehicle data and trouble codes stored within the vehicle computer networks. Access to these codes and data direct the technician to the area of concern or where/what a malfunction could be. Vehicle computer networks also automatically disable many vehicle functions when a trouble code is stored even after the actual fault has been repaired (unplugged connector, replaced component not re-learned etc.) Clearing the code can restore the function giving the appearance that the scan tool "fixed" the problem. But if the fault is still present (poor connection, loose ground, etc.) the code will re-appear and a malfunction indicator or message may illuminate, or a certain function may become inoperative again. In addition to these functions there are the programming, set up and calibration functions needed to complete a job. For instance if a brake pedal sensor or active grill shutter assembly is replaced the physical repair is complete, but the component will not operate until the network on the vehicle is commanded to "relearn" the components limits. Much like plugging a new monitor into you PC that needs the drivers downloaded and installed to operate. If the component is broken the calibration will never make it work.

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### Generic OBD-II Scan-Tool

OBD-II is a government mandated diagnostic protocol that is primarily aimed at diagnosing emissions-related problems. An OBD-II scan tool will work in many different brands of cars for engine emissions based systems only. Although you can use an OBD-II Scan Tool in an OBD-II compliant (1996 or newer) vehicle, an OBD-II Scan Tool can only query codes from the engine, not the numerous other “intelligent” systems in the car. Want to reprogram your central locks or your Radio? Diagnose a problem with ABS, Airbags, or Automatic Transmission? Initialize a body control or airbag module after replacement? Reset your Service Reminder Indicators? A Generic OBD-II Scan- Tool can’t do any of these things.

### Aftermarket Multi line scan tools

Scan tools capabilities vary significantly to retrieve and clear trouble codes, acquire lines of data (Read sensor output and observe or activate actuators like the idle air control, body function motors, transmission controls etc.). Some have additional capabilities to perform special re-learn functions. These levels of capabilities are common to almost all scan tools beyond OBD-II generic scanners to different degrees. These tools provide a pretty good number of lines of information and do a decent job of giving basic information on a lot of vehicle applications for a wide range of makes and models. The higher end aftermarket scan tools may contain some “re-learn” procedures as well but this will vary by vehicle and the level of software in the tool. Keep in mind several scan tools require subscription purchases of separate software packages for different manufactures. **Even the highest end aftermarket scan tools will be 1-2 or more years behind for procedures and coverage for the current model year release.** This is detrimental in collision repairs because of the latest model vehicles that enter their shops. If you have a vehicle requiring a module replacement and needs programming or initialization be aware that **99% of aftermarket scan tools do not provide module re-flash capabilities.** Additional equipment (j2534 pass through) with software purchases will be needed to complete this or sublet to another equipped shop, mobile programming service or dealership

### OEM Scan tools

These tools use their particular manufacturer proprietary diagnostic protocol and are only designed and supported for use in the specified OEM Line of vehicles. These tools can be very expensive to acquire and maintain but are designed to do ALL the functions required for a particular manufacture with additional and expended capabilities in all areas of the vehicle module networks. Each manufacture scan tool also requires the user to understand the operations and functions of the tool along with the requirement of subscriptions and IT maintenance keeping them operational at their intended levels.

**Diagnostic Capabilities:** Many scan tools that are generic, are not up-datable and operate on a generic OBD II or CAN platform. This means that they will work with just about any vehicle pretty good but only offer you limited ability like reading and resetting fault codes, accessing basic data stream information from the PCM. They seldom offer bi- directional communications and module re-flash capability. Many OEM PC based systems are great for looking at Data Streams as they allow functions like graphing and the ability to look at Snap shot, freeze frame or failure records.

**Bi-Directional Communication:** This is a scan tools ability to communicate in both directions with an automobile, such as commanding outputs and initiating (giving instructions) to a vehicles module to perform a task such as commanding headlamps on, wipers to operate or door lock actuators to function. If you can only read what is on the vehicle network, but cannot respond or talk back, your effectiveness for diagnostics is limited. This is what most aftermarket scan tools do, they retrieve information, but you can’t send messages back to the vehicle network to initiates output functions or calibrations.

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**Updatability:** OEM scan tool updates are normally released before a new vehicle platform or new model year is made available for sale. This insures you have the coverage and capabilities before you see these vehicles in for repair. Most aftermarket scan tools can be updated when made available and typically a couple of years behind the OE level of release. Some scan tool company's require a current subscription or for updates or a per update fee.

**Ability to Flash Program Modules:** This refers to a scan tools ability to be used as a programming tool for vehicles PCM, BCM, TCM, Radio or any other module or device on today's cars. Keep in mind that a second level of software access with the OEM must be subscribed to in order to access the flash files to download with the OEM scan tool. Less than 5% of aftermarket scan tools will do this. A separate j2534 device compatible with OE flash program files is needed in addition to the scan tool or scan tool PC based software for this function to be performed.

**Functionality:** A good scan tool offers you the ability to look at "Pending Codes." these are fault codes that occur, but do not trigger a light. OEM scan tools offer the highest level of this data available from vehicle networks. In addition data retained as "failure records" are also available with OE and the highest level scan tools.

**Using remote scanning functions and diagnostics.** This process is new and still in development. Currently this is being delivered exclusively by CDS "Collision Diagnostic Services". This allows the shop to have the vehicle scanned with guided diagnostic processes delivered to the shop by a master certified diagnostic specialist on a per use basis. No scan tools to buy or maintain and allows intermediate level technicians at the shop to carry out on vehicle inspections, tests or procedures as needed for areas of concern from the scan results interpreted by a Master technician. No towing to dealer and reduced wait times. At CDS our technicians use OE scan tools to perform the functions needed while the car remains in the shop from initial diagnostic assessment to calibrating or programming modules and components affected by the damage or repair process. If this method seem to be a reasonable alternative to the ways it has been done in the past please contact us at CDS for more information on obtaining and using web based remote diagnostics for your current diagnostic needs.

**Source: Written by Chuck Olsen - Collision diagnostic Services**  
<http://collisionadvice.com/scan-tool-documents/>

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## Strategy Based Diagnostics in Collision Repair

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Strategy Based Diagnostics is an automotive best practice routine that was initially published by G.M after studying and observing successful technicians in the field who consistently meet or exceed productivity standards with the lowest levels of "re-checks" or "comebacks." Since GM published this best practice, Strategy Based Diagnostics has been adopted by most in the automotive repair field. With the current wave of innovative technologies being applied to new vehicle models, this process is finding its way into collision repair as a necessity. The complexities and procedures associated with the requirement to return a vehicle to pre-loss condition can be mind boggling. We have modified some steps to this process that makes it more applicable to collision damaged vehicles in addition to the assessment of obvious visual physical damage.

The goal of Strategy Based Diagnosis is to provide guidance when creating a plan of action for each specific diagnostic situation. By following a similar plan for each diagnostic situation, maximum efficiency will be achieved when diagnosing and repairing vehicles.

The first step of the diagnostic process should always be: Understand and Verify the Customer's/Technician's Concern. For collision damaged vehicles there are the additional challenges that the customer may not be aware of a problem.

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1. **Understand and Verify the Areas of Concern.** The first part of this step is to obtain as much information as possible from the customer and from the vehicle itself. In order to verify the concern, the technician should be familiar with the normal operation of the system and refer to the owner or service manual for any information that is needed.
2. **Perform a Vehicle Diagnostic System Check.** This will verify the proper operation of the vehicle's embedded systems. This will also lead the technician in an organized diagnostic approach to building a good repair blueprint.
3. **Preliminary Checks:** Conduct a thorough visual inspection. Review the history of the vehicle. Detect unusual sounds or odors. Record the diagnostic trouble code (DTC) information.
  - When does/did the condition occur?
  - Is/was there physical damage contributing to the condition? How long does the condition last?
  - How often does the condition occur?
  - Are there aftermarket accessories on the vehicle?
4. Check for related Bulletins, Recalls and Preliminary Information (PI).
5. Previous steps may not be possible until physical condition of vehicle is repaired to a point that it can be operated normally.
6. Review the following diagnostic categories:
  - 6.1 **Current DTC:** Follow the designated DTC diagnostic in order to make an effective repair. Refer to Diagnostic Trouble Code (DTC) List for the vehicle.
  - 6.2 **Symptom - No DTC:** Select the appropriate symptom diagnostic. Follow the diagnostic steps or suggestions in order to complete the repair.
  - 6.3 **No published diagnostics:** Analyze the concern. Develop a plan for the diagnostics. The service manual schematics will display system power, ground, input, and output circuits. You can also identify splices and other areas where multiple circuits are tied together. Look at component locations to see if components, connectors or harnesses may be exposed to extreme temperature, moisture, or corrosives such as road salt, battery acid, oil or other fluids. Utilize the system description and operation and system circuit description.
  - 6.4 **Intermittent/History DTC:** An intermittent condition is one that does not occur continuously, may be difficult to duplicate, and will only occur when certain conditions are met. Generally, an intermittent is caused by faulty electrical connections and wiring, malfunctioning components, electromagnetic interference (EMI), driving conditions, or aftermarket equipment.

The following approaches and tools may prove to be beneficial in locating and repairing an intermittent condition or a History DTC.

- 6.4.1 Combining the technician's knowledge and skill with the available service information.
- 6.4.2 Evaluate the symptoms and conditions described by the customer or observed by the technician.
- 6.4.3 Follow the procedures in Testing for Intermittent Conditions and Poor Connections.

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6.4.4 Use the available scan tool, digital multi-meter, or data logger with data capturing capabilities.

7. Isolate the root cause then repair and verify the correction. Verifying that the DTC or symptom has been corrected may involve road testing the vehicle and additional scanning.

8. Re-examine the Concern: If a technician cannot successfully find or isolate the concern, a re-evaluation is necessary.

9. Vehicle Operating as Designed: This condition exists when the vehicle is found to operate normally. The condition described by the customer or technician may be normal. If possible, compare with another like vehicle that is operating normally under the same conditions described by the customer or observed by the technician. Document your findings and the operation of the system.

10. The final step of the diagnostic process should always be: Repair Verification.

This process is very straight forward however each step is not always easily achieved. Damaged vehicles can induce faults in areas not normally encountered by routine maintenance or component failures. This means the technician's thorough understanding of what was damaged and repaired from a collision is critical in chasing down a fault. Additionally, access to high level vehicle scan routines is a must to too look in the right areas.

Collision shops that currently have skilled electrical/electronic diagnostic technicians on staff are those who already recognize the need of getting involved with the electrical/electronic repairs needed on today's complex vehicles. If your shop is currently subletting this work or towing vehicles to dealers after collision repairs for electronic diagnosis and repair, I highly recommend you select a candidate for training to at least an intermediate level with a diagnostic support system.

**Source: Written by Chuck Olsen - Collision diagnostic Services**

**<http://collisionadvice.com/scan-tool-documents/>**

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## “Tips From the Board” - Labor Rate

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The next time you decide to negotiate your labor rate, (and I'm not saying you should), but if you decide to discount your labor rate to an insurance company reimbursing for a claim, you might ask them to start at the highest rate a major insurer in your area is already paying and documenting properly on paper.

If XYZ insurance company is considering the “prevailing Rate” to be X and its higher than the insurance company you are dealing with, use the same logic with insurers that they use on you. **“The guy down the street will do it for xxx.”** Work them against each other. Ask them to start at the highest rate paid in your area, by one of their competitors.

The “Prevailing Rate” is a term used by insurers to justify what they feel you will accept. The insurers will always offer up the prevailing rate if shops continue to accept it. If you don't agree the rate offered is acceptable, JUST SAY NO. We do not have an agreement on labor rate offered. Stop allowing someone to force you to agree to something you know is wrong. Only you can fix this in your own shops. If you are happy with the rate being offered up, then disregard everything I have said. Continue to do the same thing you have always done, expecting a different result.

Oh by the way that is the definition of insanity.

**Tony Ferraiolo - ABAC Immediate Past President - A&R Body Specialty - Wallingford**

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